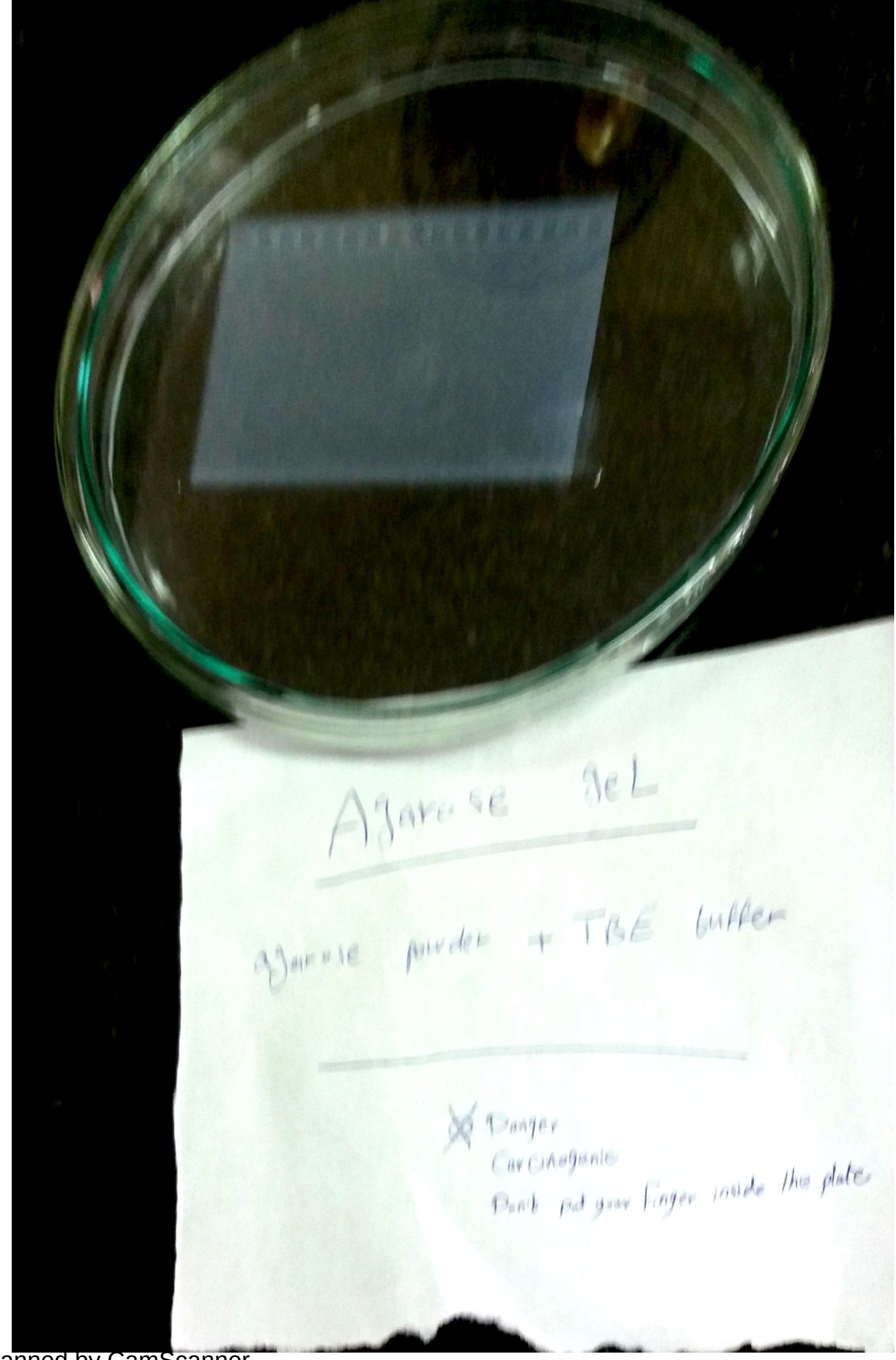
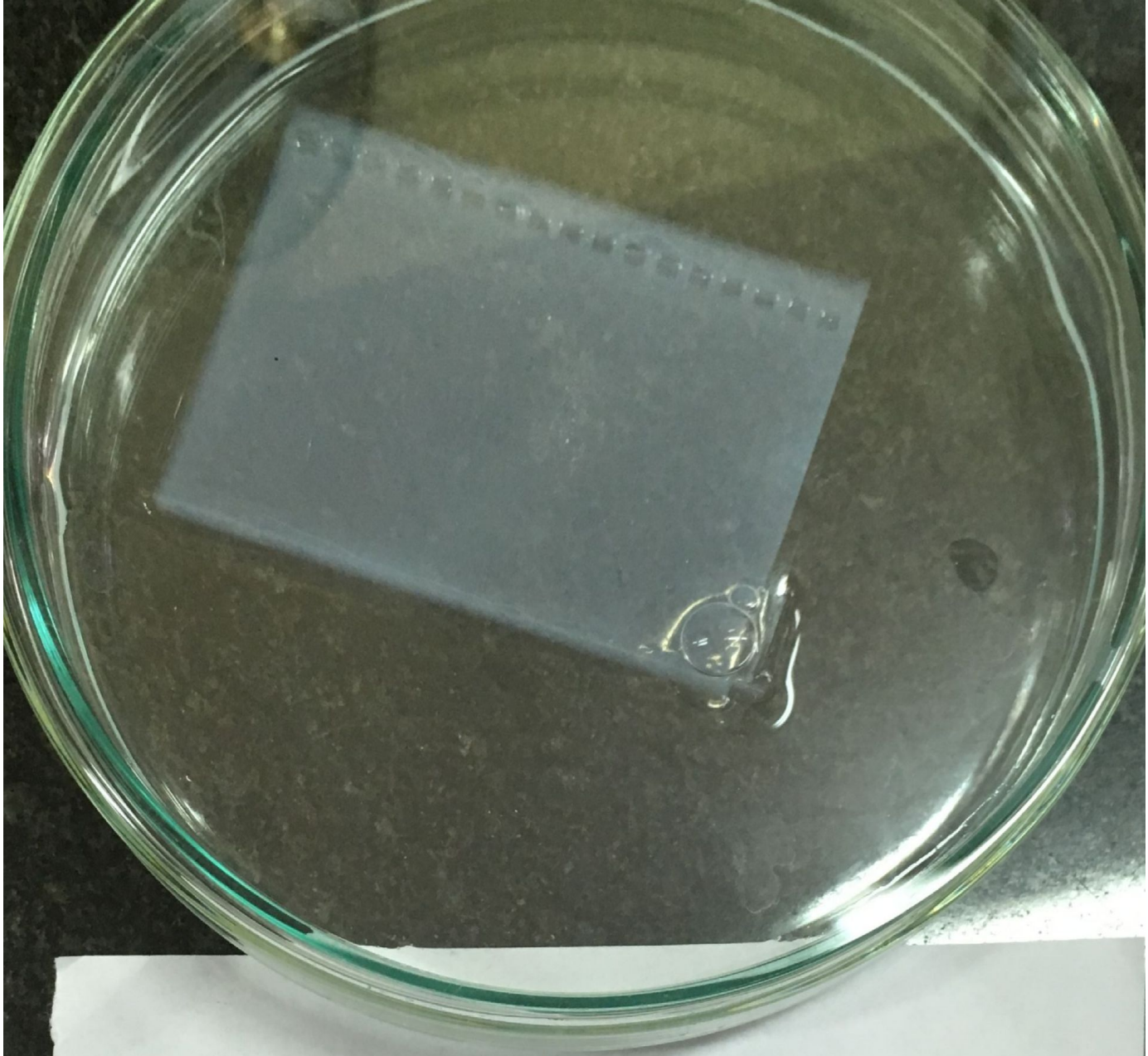


Scanned by CamScanner



Agarose gel

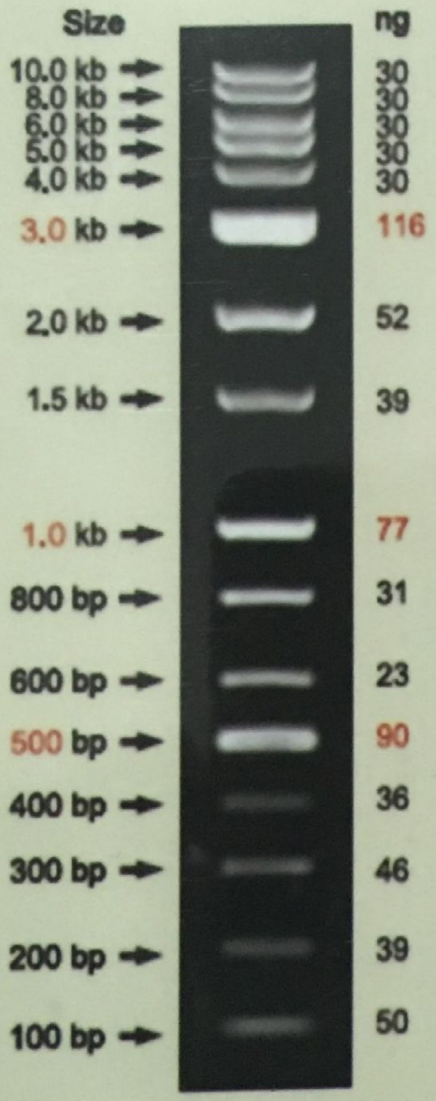
agarose powder + TBE buffer

Scanned by CamScanner

Scanned by CamScanner

1Kb Plus

Cat. No. SM354-500

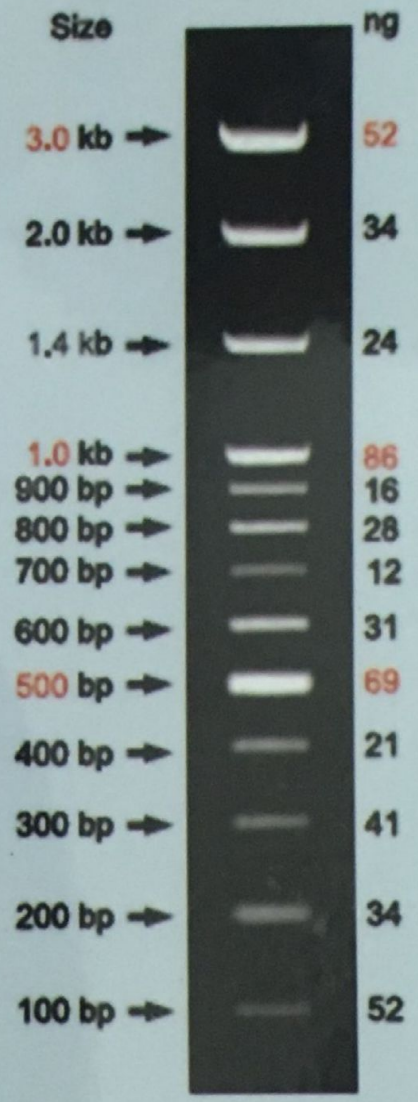


5 $\mu\ell$ loading
on 1 % agarose gel

* The above mentioned concentration of bands is for reference. Please confirm accurate concentration with spectrophotometer.

100bp Plus

Cat. No. SM342-500



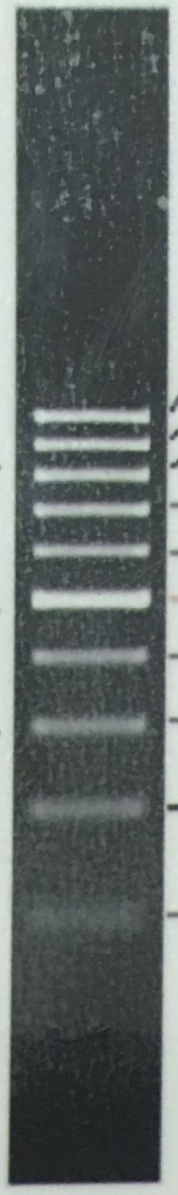
5 $\mu\ell$ loading
on 1.5 % agarose gel

* The above mentioned concentration of bands is for reference. Please confirm accurate concentration with spectrophotometer.

Scanned by CamScanner

GeneRuler™ 100 bp DNA Ladder

O'GeneRuler™ 100 bp DNA Ladder, ready-to-use



bp	ng/0.5 µg	%
1000	45.0	9.0
900	45.0	9.0
800	45.0	9.0
700	45.0	9.0
600	45.0	9.0
500	**115.0**	**23.0**
400	40.0	8.0
300	40.0	8.0
200	40.0	8.0
100	40.0	8.0

1.7% TopVision™ LE GO Agarose (#R0491)

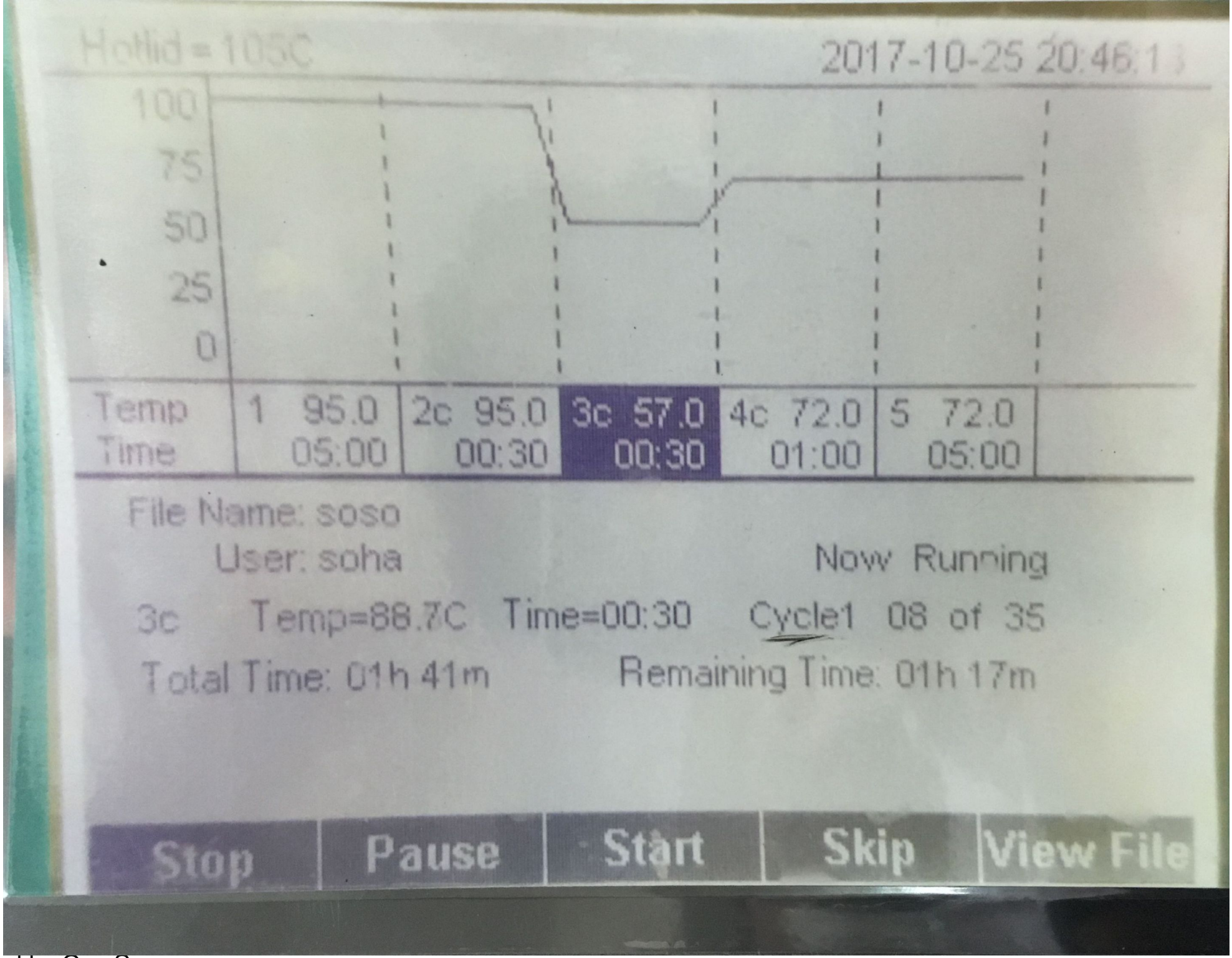
0.5 µg/lane, 8 cm length gel,
1X TBE, 5 V/cm, 1 h

5% polyacrylamide

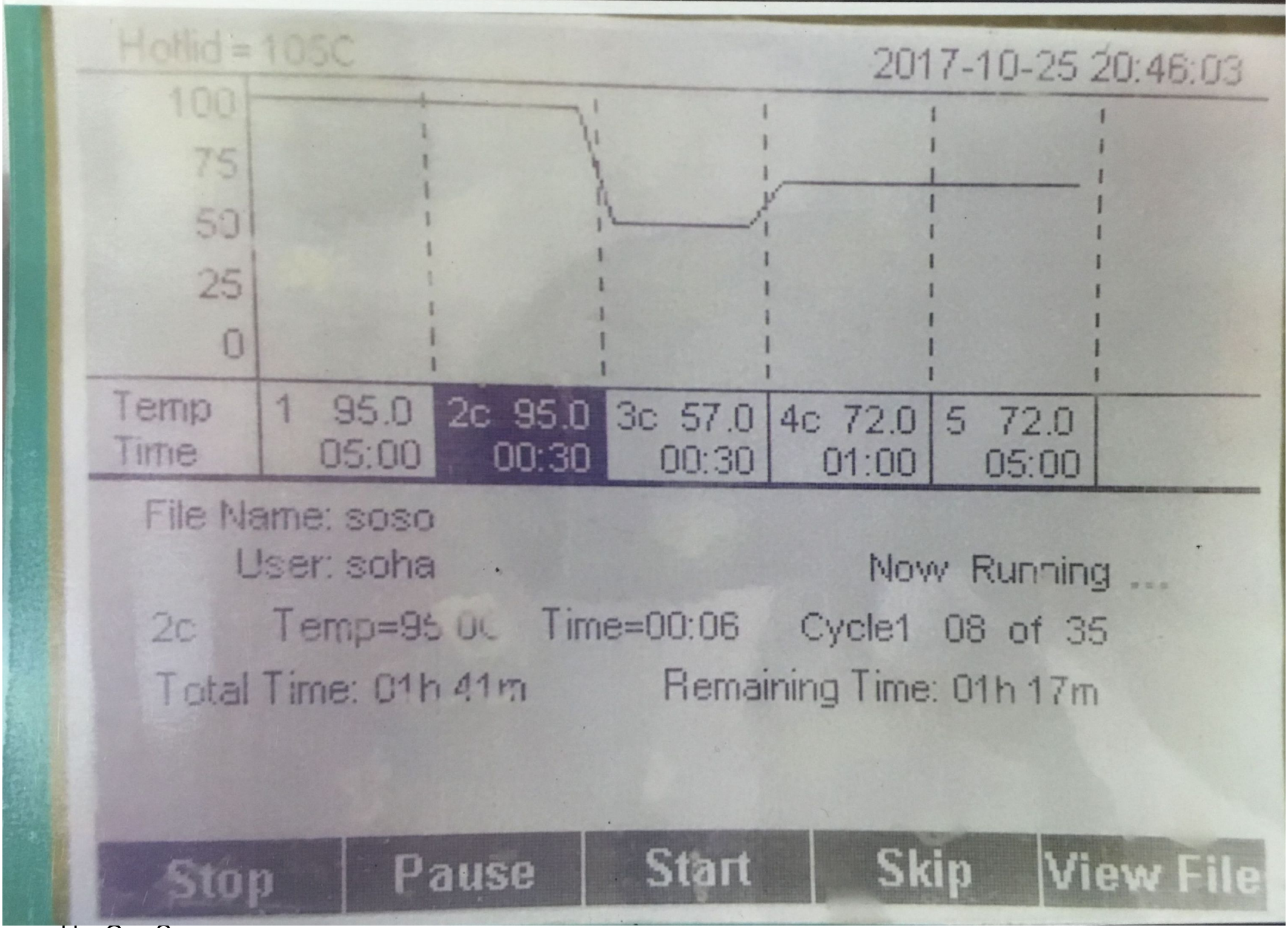
0.5 µg/lane, 20 cm length gel,
1X TAE, 8 V/cm, 3 h

Scanned by CamScanner

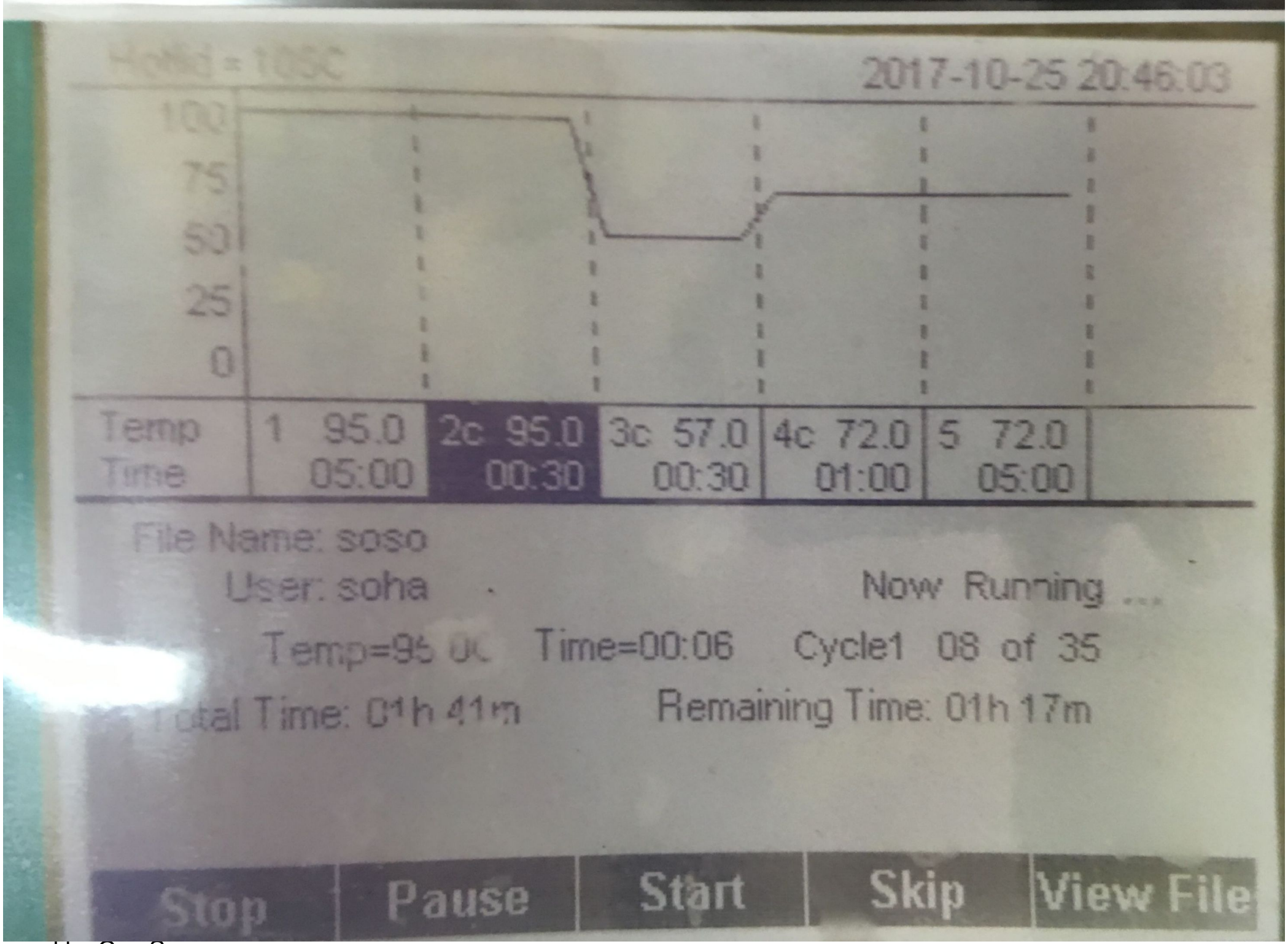
Scanned by CamScanner



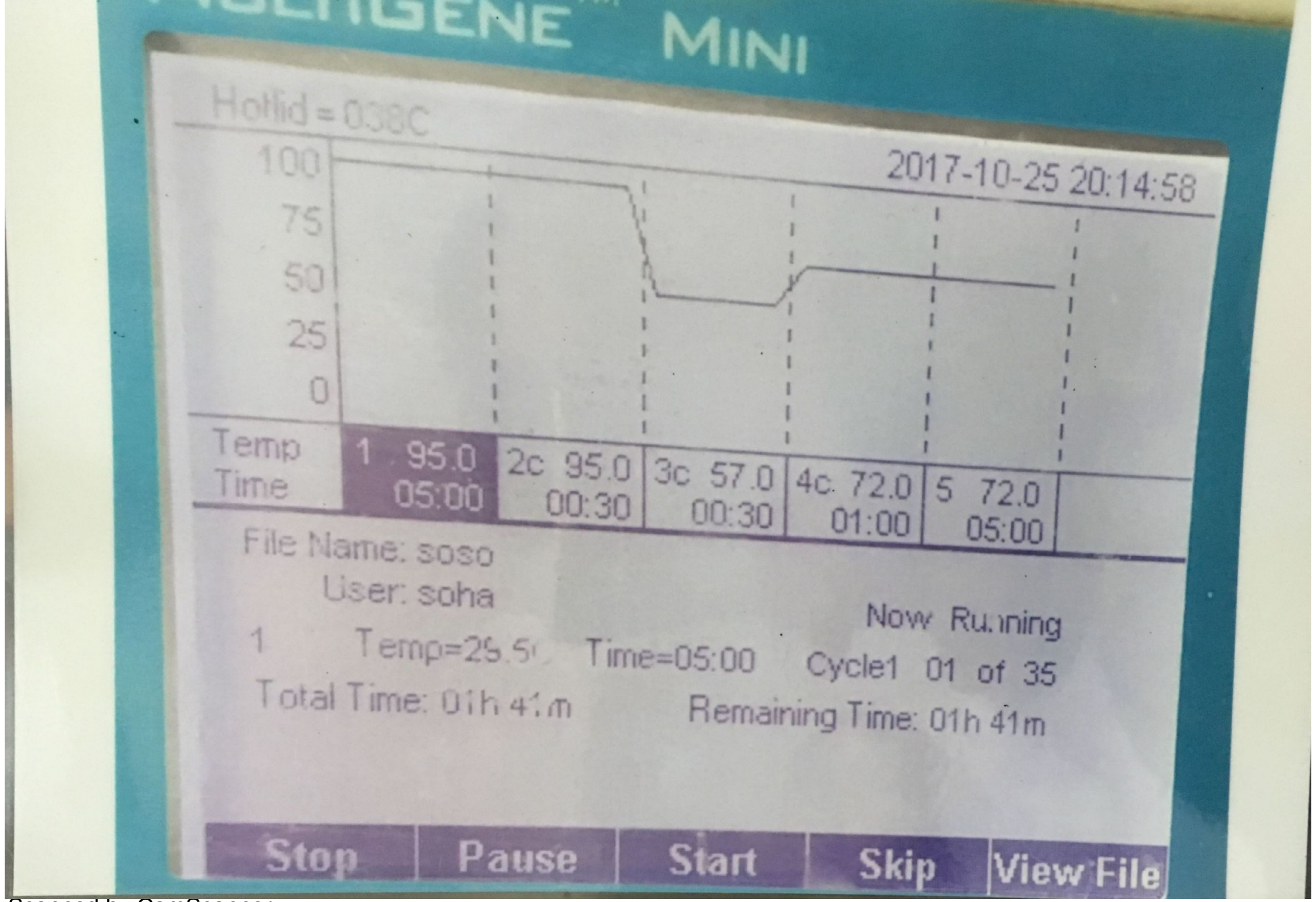
Scanned by CamScanner



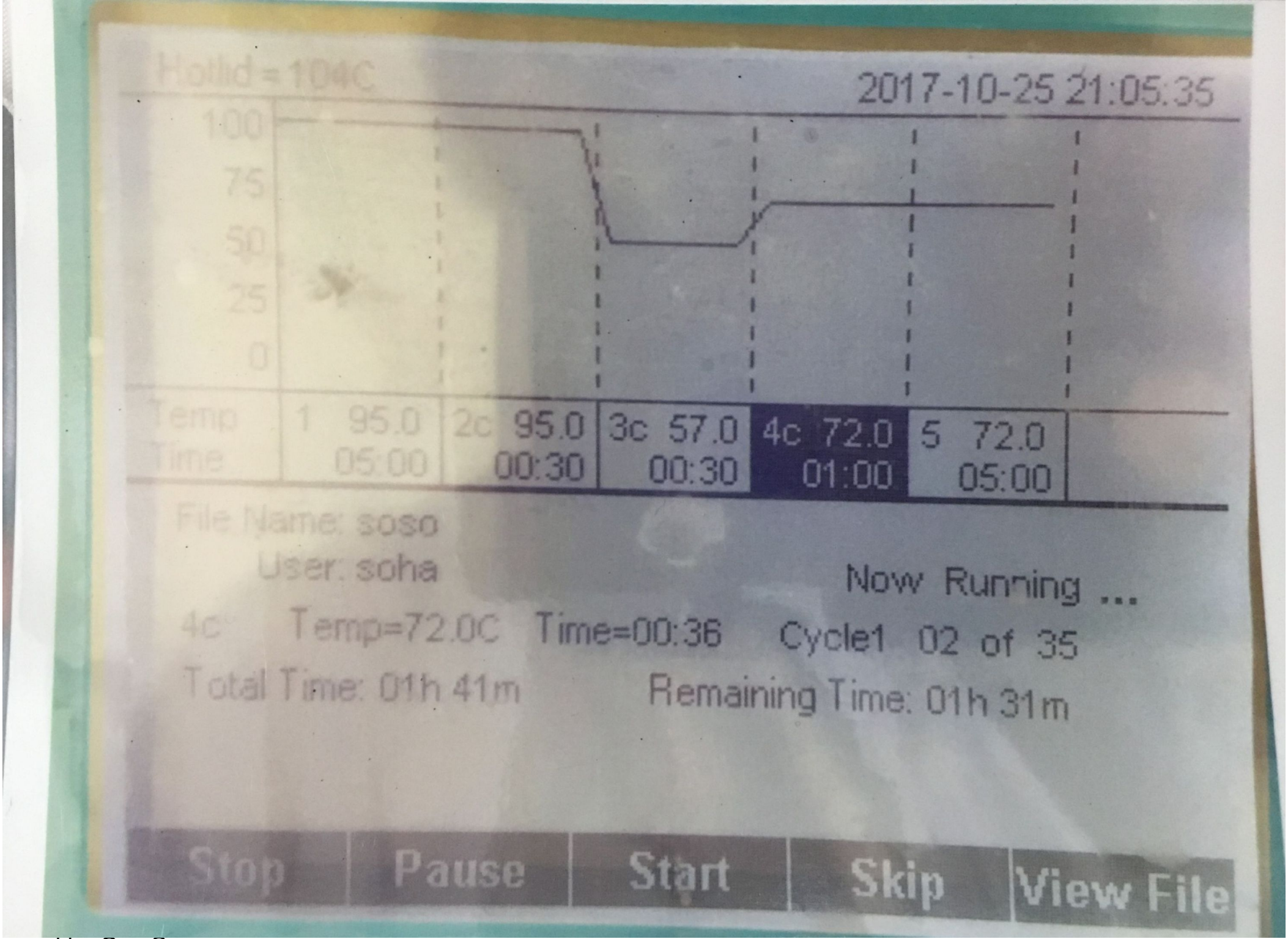
Scanned by CamScanner



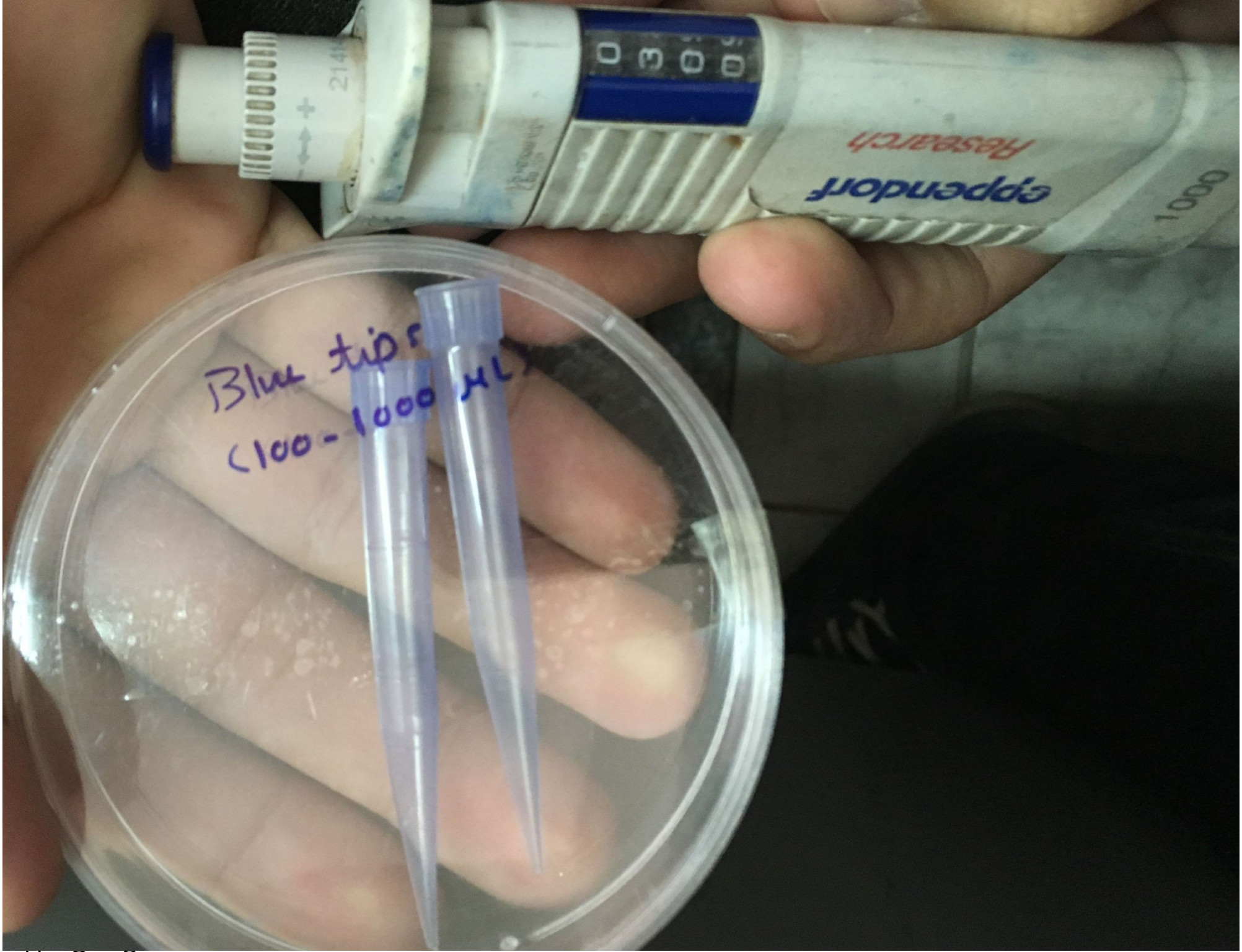
Scanned by CamScanner



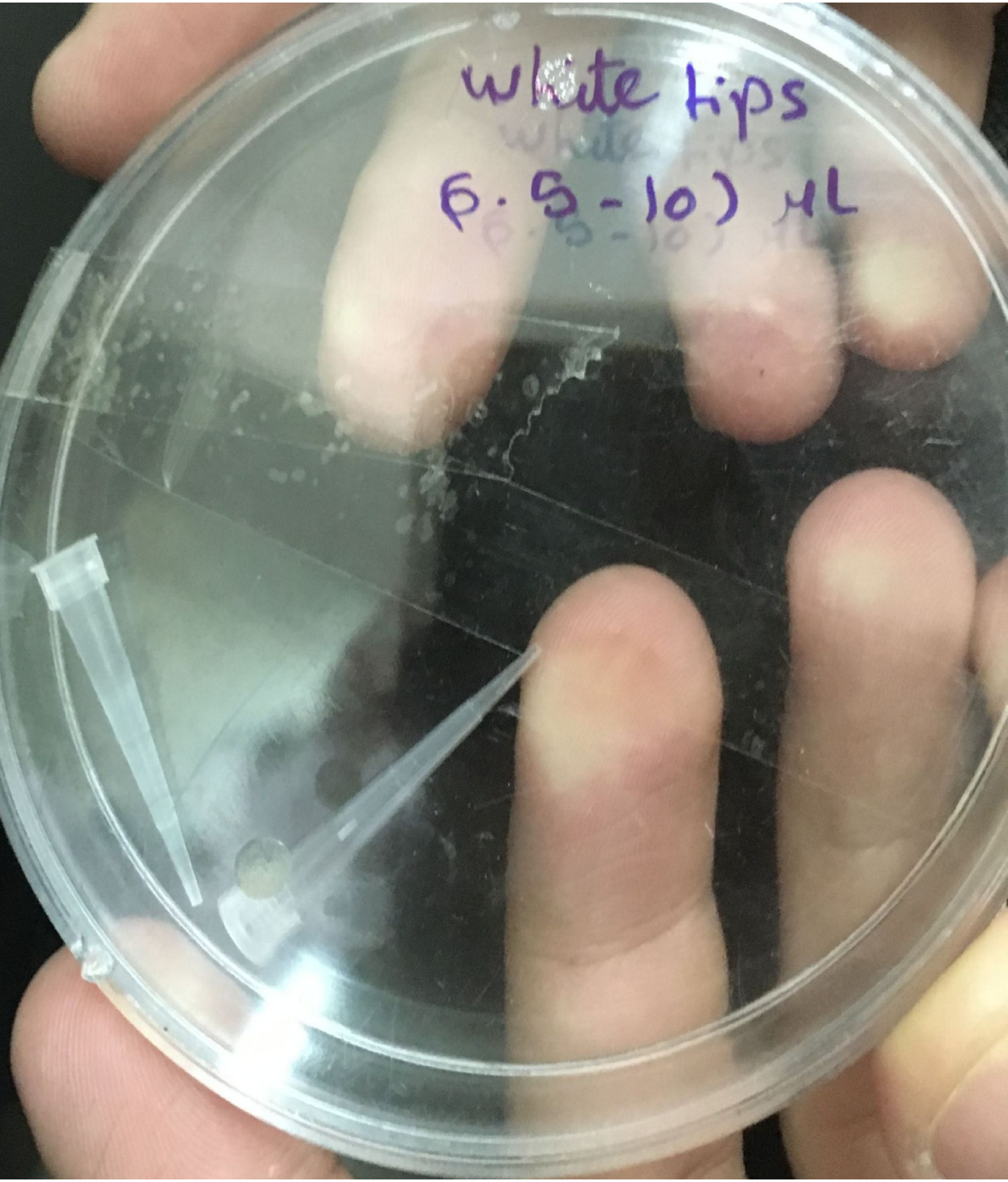
Scanned by CamScanner



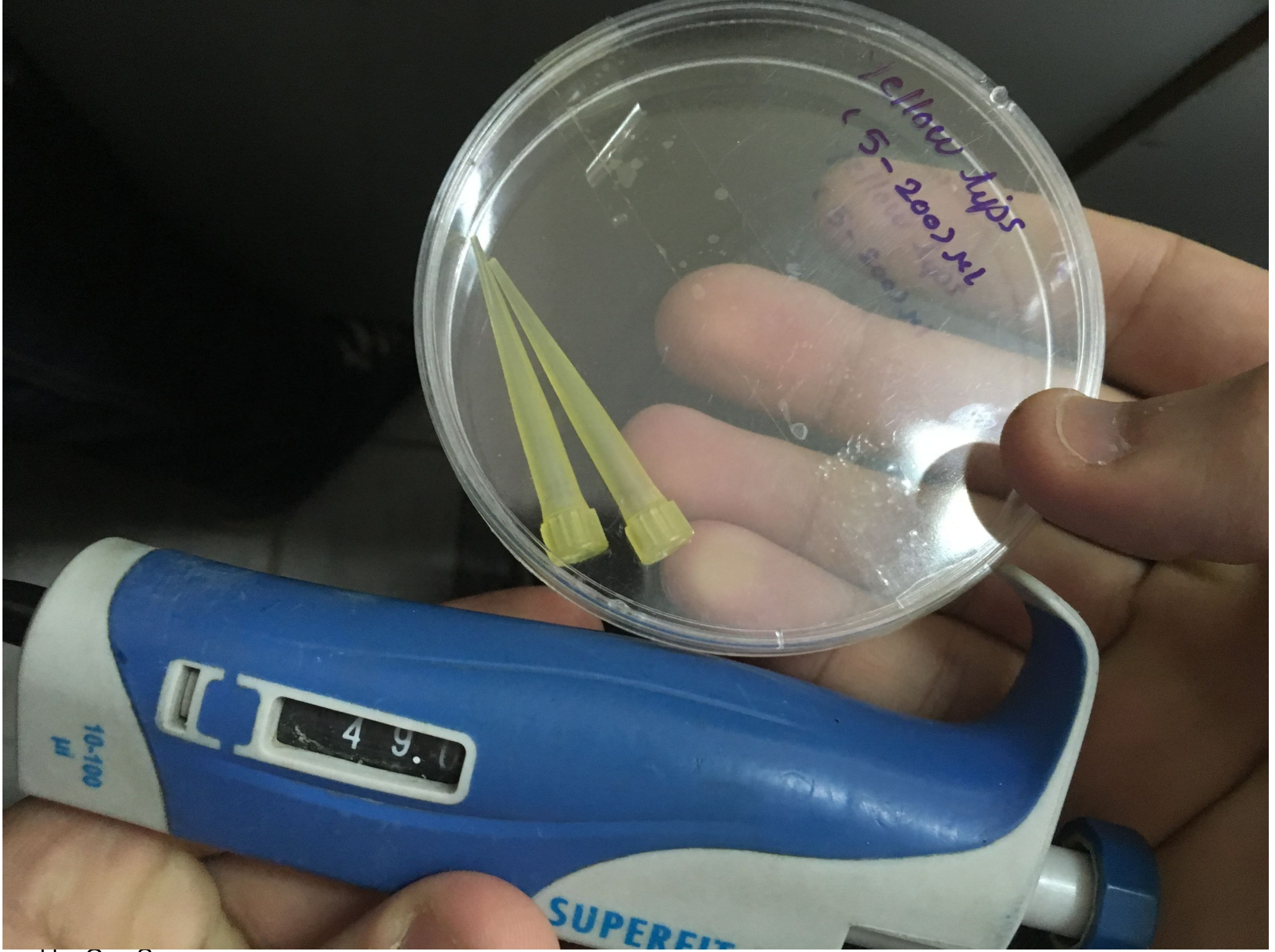
Scanned by CamScanner



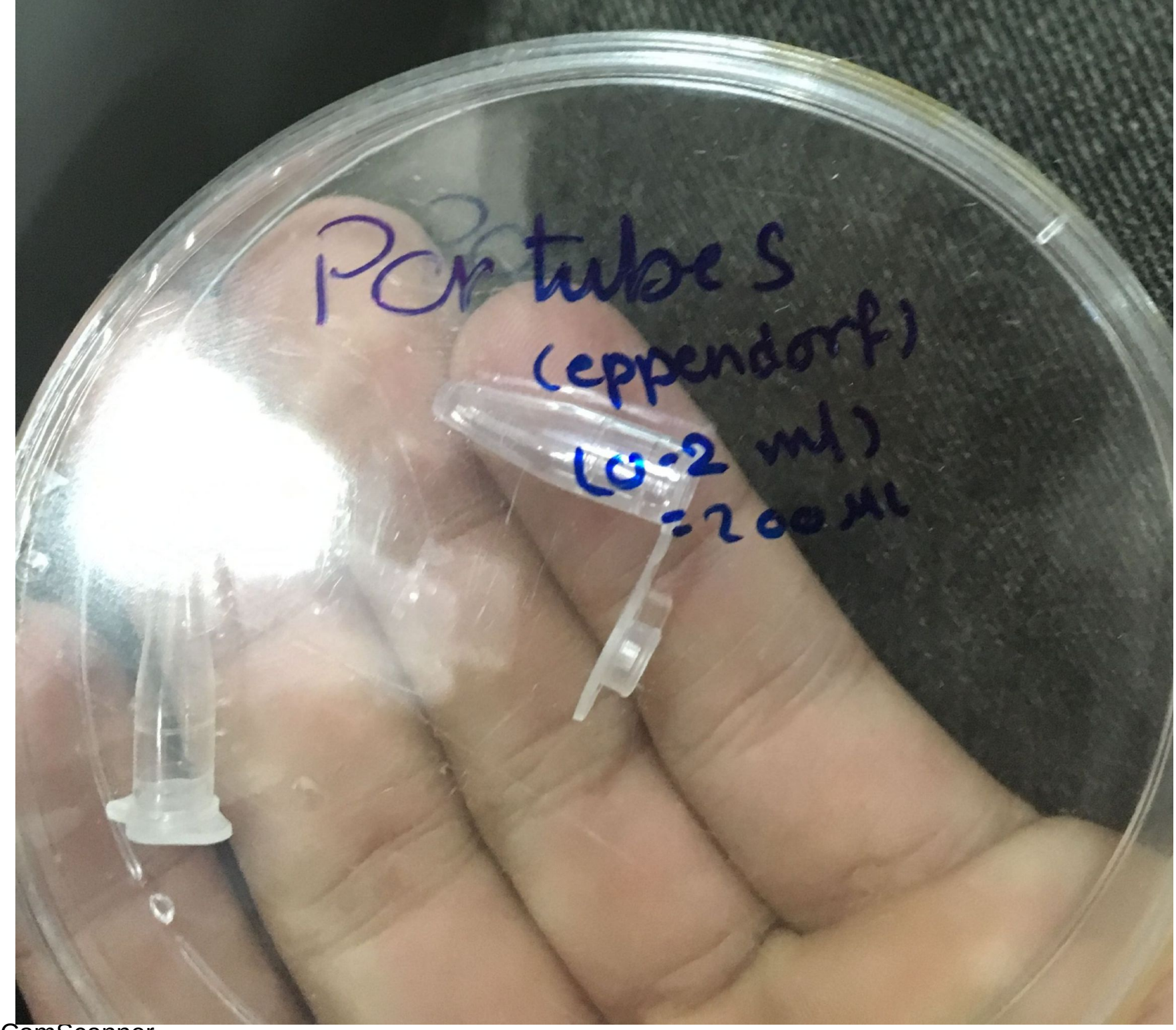
Scanned by CamScanner



Scanned by CamScanner

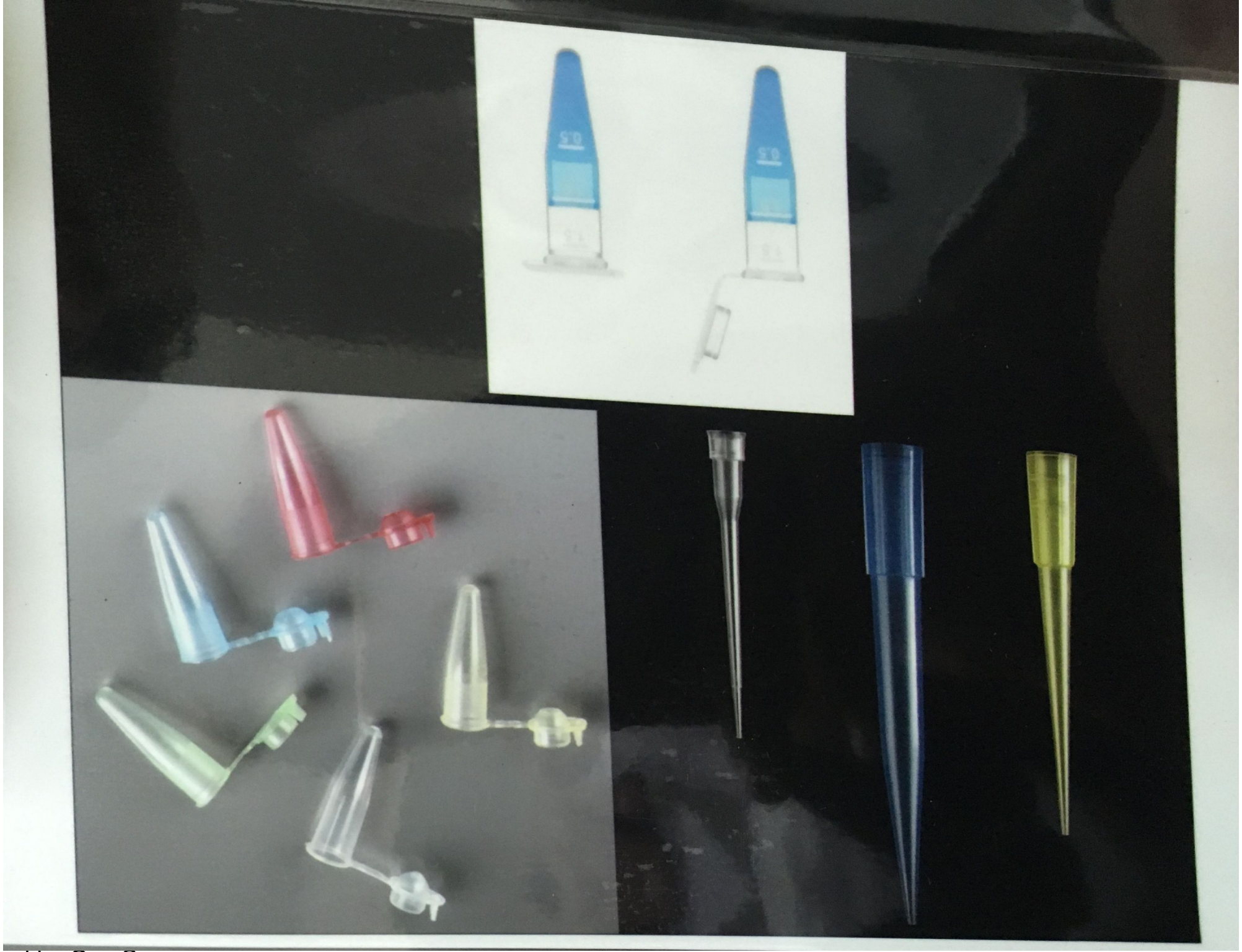


Scanned by CamScanner

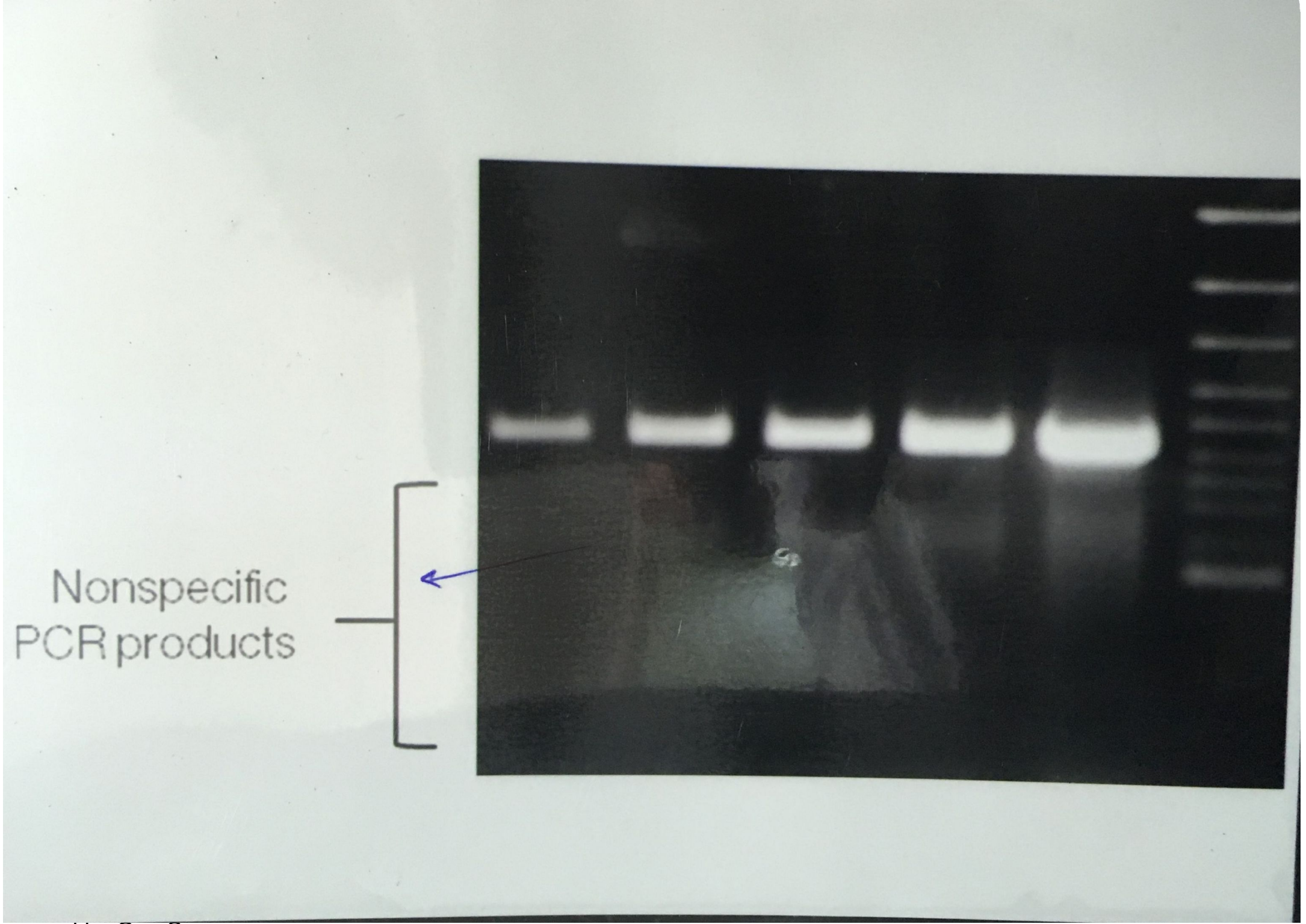


Scanned by CamScanner

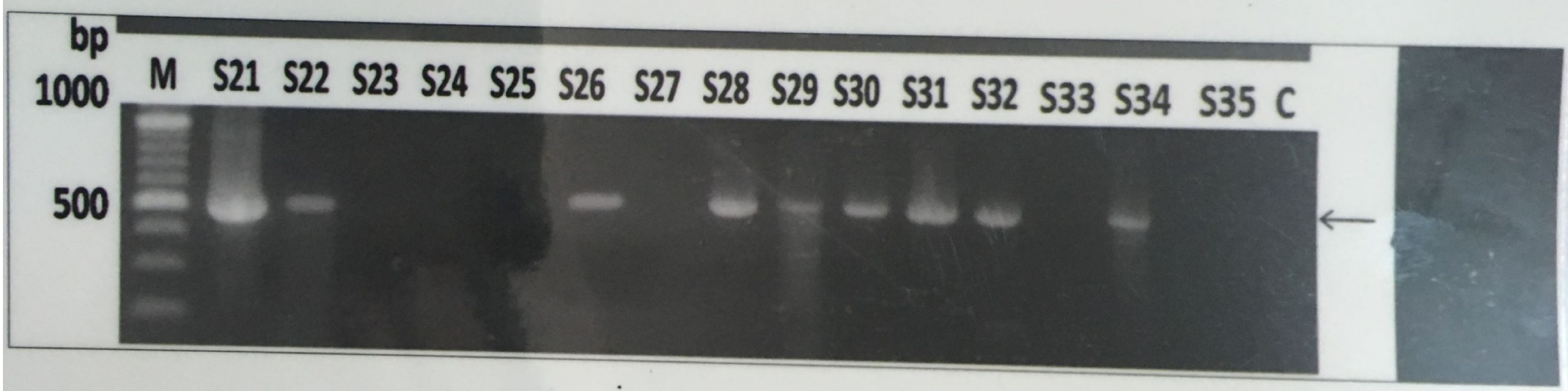
Scanned by CamScanner



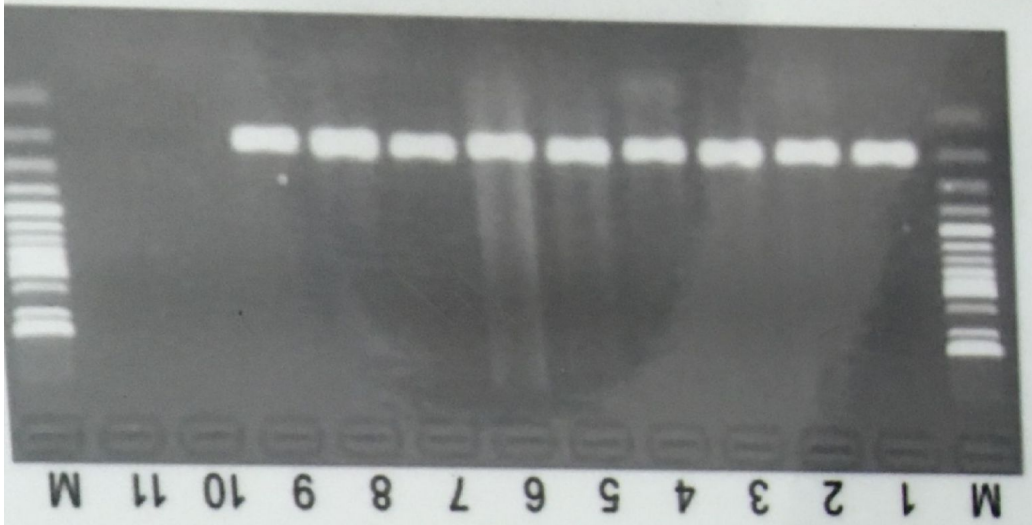
Scanned by CamScanner

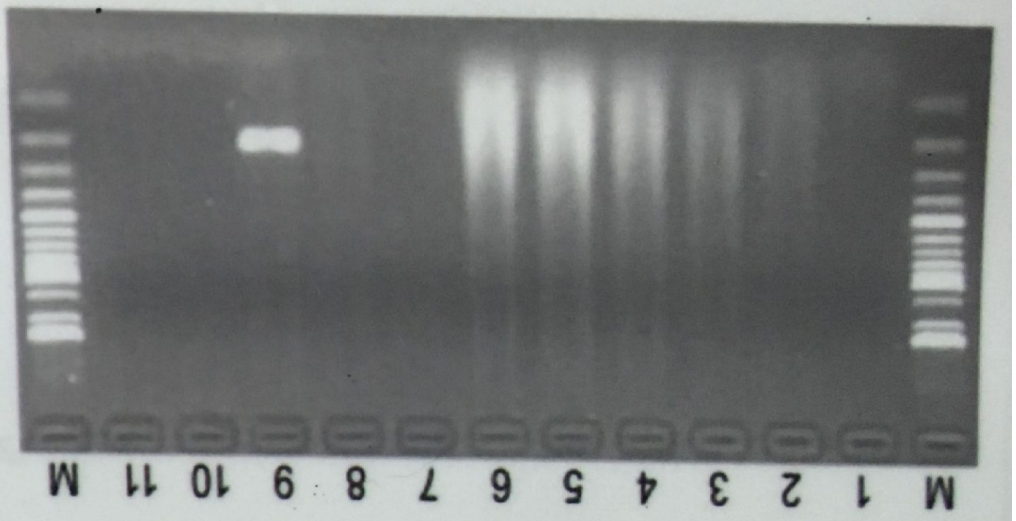


Scanned by CamScanner

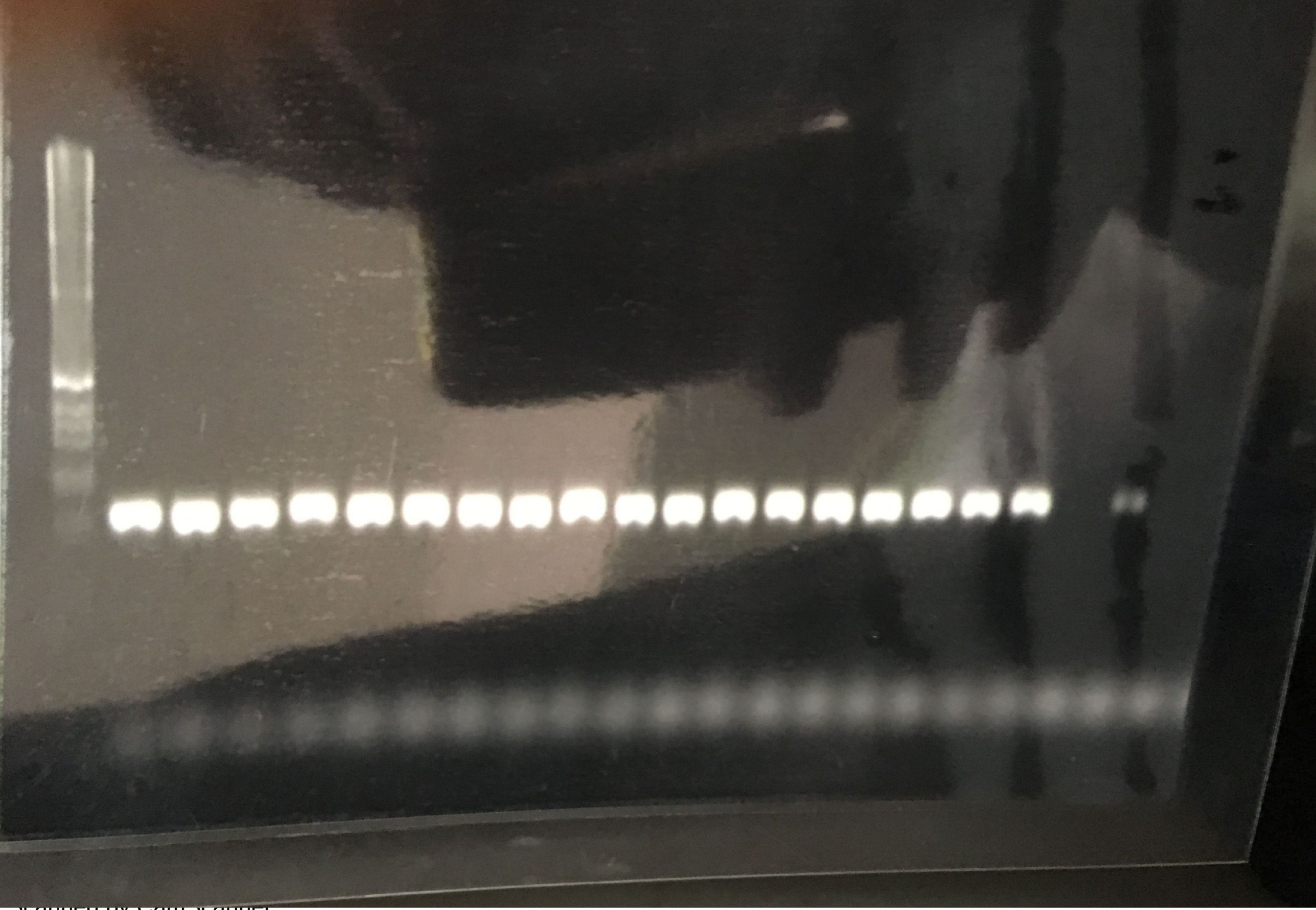


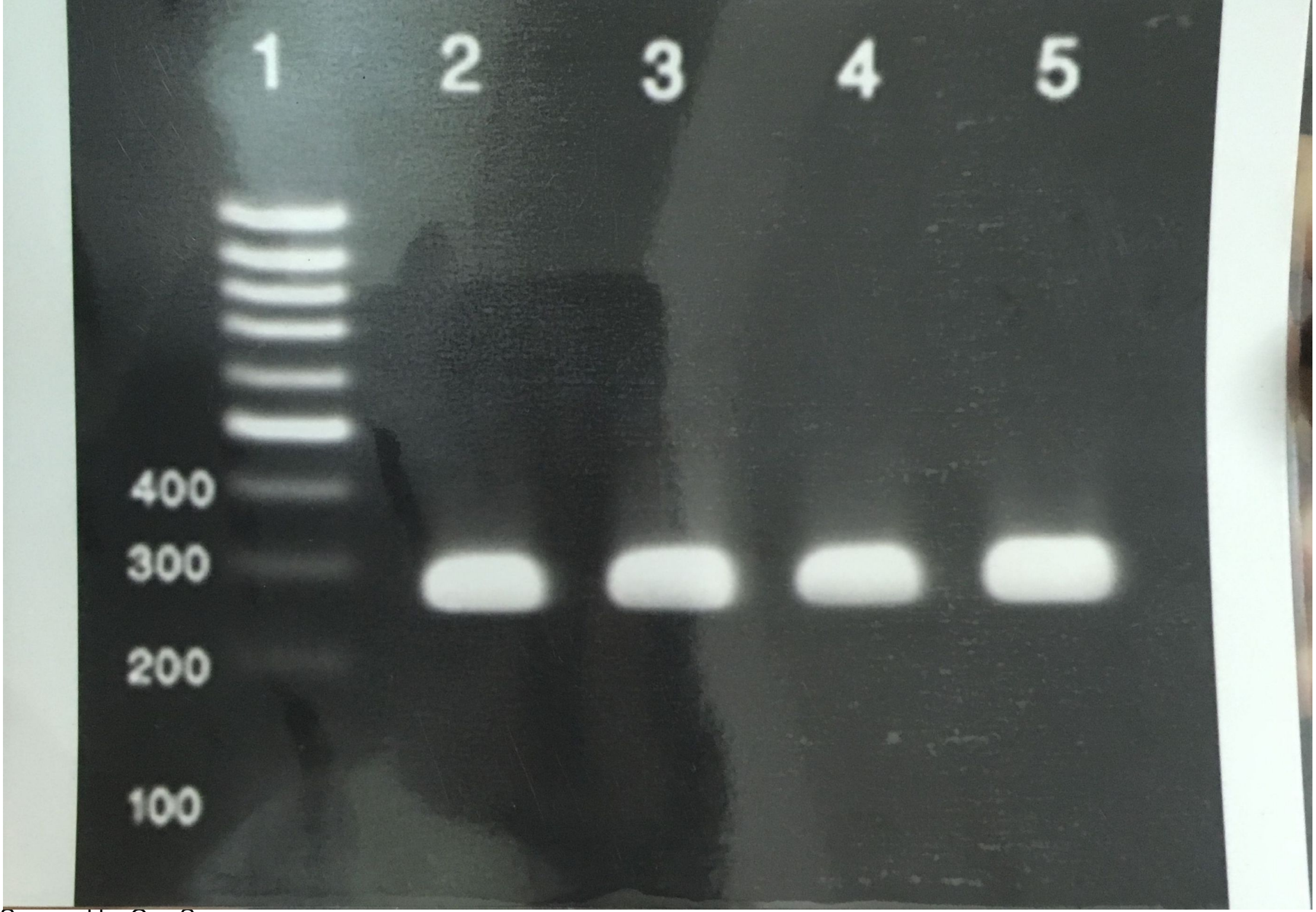
Scanned by CamScanner



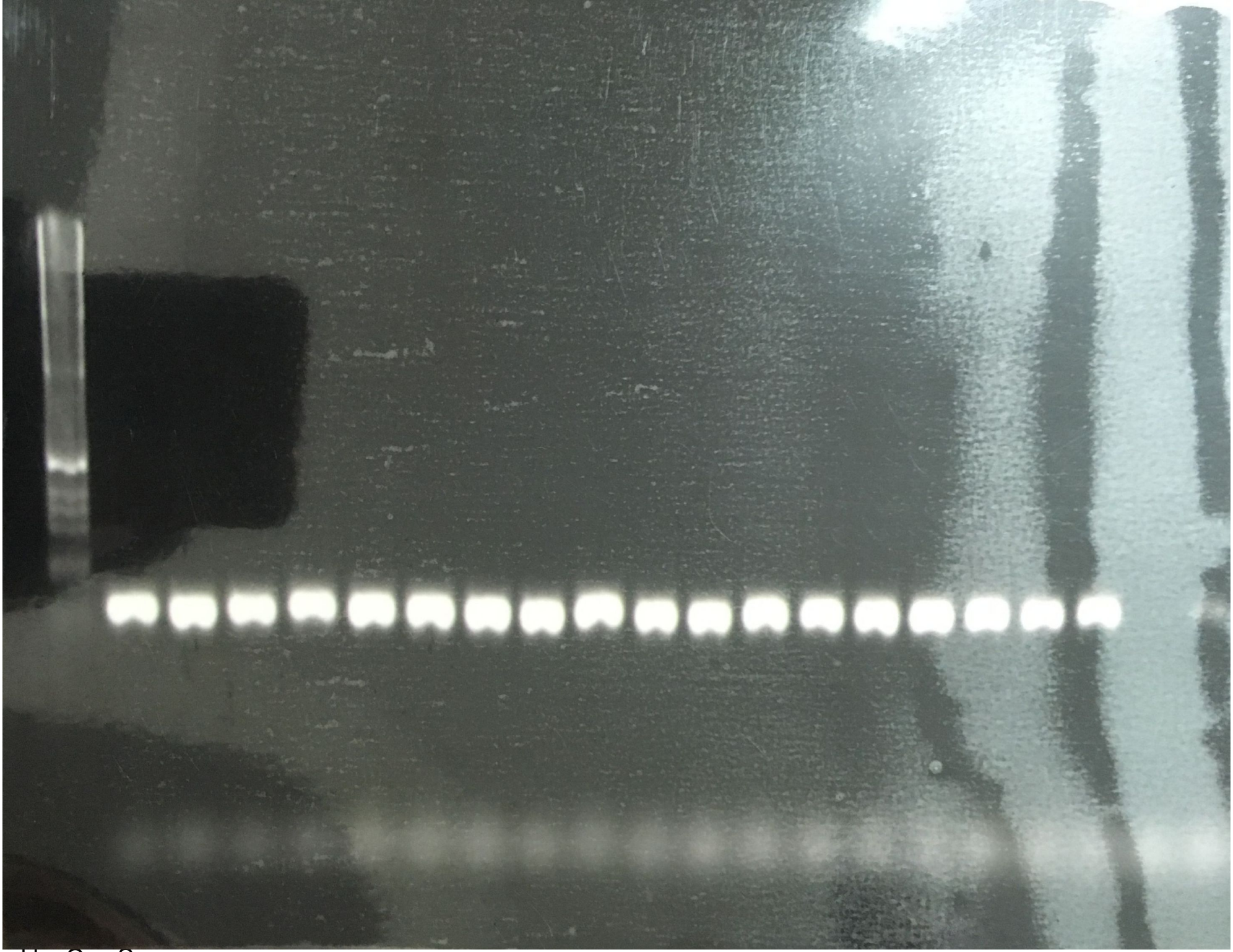


Scanned by CamScanner


Scanned by CamScanner



Scanned by CamScanner



Scanned by CamScanner

Date No.

[1] DNA ladder

- Def. : Set of Standard DNA of known size & length.
- Use :- Determine the size of unkown DNA on gel.
- Types :-

	100 bp DNA ladder	100bp plus ladder	1 Kb plus ladder
- no. of bands	10	13	16
- size	100 bp → 1000bp	3000 bp → 100 bp	10Kb → 100b
- Shiny bands	500	500 & 1000	500 & 1000 & 3

- well اول Gel في شمال او يمين الـ ladder دايما.

(Kb = 1000 bp)

Scanned by CamScanner

Date No.

[2] Master mix

- Identify : Multiplex PCR Master Mix
- Components:

1- Taq DNA polymerase

2- dNTPs (deoxynucleotide triphosphate) "Nucleotides"

3- $MgCl_2$

4- Buffer (8-3-8-8)

Scanned by CamScanner

Date No.

3] Cycles of PCR

temp: حلقوي ثنت

• Steps :- ??	• Temp.	• Time
1] initial denaturation	95°C	05:00 → 5 min
2] Denaturation	95°C	00:30 → 30 sec
3] Annealing	50 - 65°C	00:30 → 30 sec
4] Extension	72°C	01:00 → 1 min
5] Final extension	72°C	05:00 → 5 min

• Number of Cycles :- حلقوي ثنت

Ex: Cycle 02 to 35 = 35 Cycles

Scanned by CamScanner

Date No.

[4] Eppendorf

• Name	• Size
Eppendorf	1-5 ml
PCR eppendorf	0.2 ml = 200 µl

[5] Tips

• Name	• Volume
Blue	100-1000 µl
Yellow	5~~0~~-200 µl
white	0.5-10 µl

Scanned by CamScanner

Date No.

(8) Mistakes

① Shearing of DNA :
↓
(ladder)
← bands مش فاضيه

- High voltage applied
- High amount DNA loaded in well
- Low quality of DNA " قديم "

② Negative Control :
(C)

- No band ← معزوش
- Presence of band xx

③ Primer dimer :

over come → by.

- High annealing temp.
- High Conc. of DNA in the Rx.

ladder في آخر الصوره فيه

④ Non Specific PCR product

يبقى bands فوق بعضها
واخده شكل مش فيه
تالت بعد ladder لأن
Primer dimer دي تعتبر كده

Scanned by CamScanner

Date No.

[7] TBE buffer

→ Tris Borate EDTA

→ Composition :-
- Tris base
- Boric acid
- EDTA

→ Use :-
- Conduct electric field
- Adjust pH (8.3)
- used in preparation of agarose gel

[8] Agarose gel

→ use :- - used in gel electrophoresis for analysis of nucleic ā (DNA)

- Good conductor for electric field

Scanned by CamScanner